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Canada Centre for Mineral and Energy Technology | Centre canadien de la technologie des minéraux et de l'énergie

PROGRESS REPORT ON "CANADIAN MINING TECHNOLOGY CO-ORDINATION PROJECT" (CANMET PROJECT 3.1.01.03)

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CANADIAN MINING TECHNOLOGY CO-ORDINATION PROJECT
(CANMET Project 3.1.01.03)

INTRODUCTION

There are many fundamental mining technology improvements being developed on a continuing basis, within the operations of progressive mining companies, with the valuable collaboration of consultants, equipment suppliers, government R & D organizations, universities and research organizations. However, there often appears to be a limited interchange of information as to what projects are actually in progress and what valuable results may be available. An on-going communications network assembling and disseminating such information would appear to be a valuable contribution to mining technology development in Canada.

Such a projected current awareness service could have the potential to provide valuable information to the industry on new technologies or significant modifications to old ones. Hopefully this should make it possible for existing and planned mining operations to effect additional improvements in productivity and unit costs in the short term.

Additionally, it would provide a national data bank of significant current mining technologies, as well as those under development. Analyses of such results would permit governments, universities and other mineral research organizations to determine subject areas which are receiving adequate or excessive attention, plus those which are receiving very little, representing "gaps". Such analytical results would make it possible to promote new mining technology development projects where most needed.

PROJET DE COORDINATION DE LA TECHNOLOGIE D'EXPLOITATION DES MINES CANADIENNES

(Projet 3.1.01.03)

INTRODUCTION

La technologie fondamentale des mines est l'objet d'améliorations constantes au sein des entreprises dynamiques grâce à la collaboration indispensable des experts-conseil, fournisseurs d'équipement, organismes gouvernementaux de R et D, universités et organismes de recherche. Cependant, il semble que trop souvent il y ait un manque de communication en ce qui a trait aux projets en cours et aux progrès réalisés. Par conséquent, l'établissement d'un réseau de communication pour la collecte et la diffusion des données les plus récentes sur l'actualité technologique pourrait contribuer énormément au développement de la technologie minière au Canada.

Un tel service d'information sur les activités en cours pourrait fournir à l'industrie des renseignements de grande importance au sujet des nouvelles technologies ou des modifications apportées aux technologies classiques. On espère qu'un pareil service permettrait aux installations minières actuelles ou futures d'apporter des améliorations additionnelles au niveau de la productivité et du coût unitaire.

En outre, le service établirait une banque de données à l'échelle nationale tant sur les technologies actuelles d'exploitation minière que sur les technologies en voie de développement. L'analyse des données donnerait aux gouvernements, aux universités et à d'autres organismes de recherche minière la possibilité d'identifier les secteurs favorisés qui ont bénéficié des recherches ainsi que les secteurs négligés qui méritent plus d'attention. Les résultats de l'analyse permettraient la mise en oeuvre de nouveaux projets de développement de la technologie d'exploitation minière dans les secteurs identifiés.

NACMMR INITIATIVE

The NACMMR Mining Sub-committee has recognized for some time that there has been no national mechanism for exchanging information on current mining technology development projects, indicating the need for a current awareness service to cover this area. In its minutes, it has recorded its position as follows:

- "A co-ordinating organization, with financial support, will be essential to promote and effect such company sharing of mining R & D results nationally".
- "CANMET's role should include conducting surveys pertaining to mining R & D, assembling, collating and evaluating such data and disseminating pertinent R & D information for general use by the Canadian mining industry".

CANMET RESPONSE

In response to this designated need, in the 1983-84 fiscal year, CANMET added a new project entitled: "Canadian Mining Technology Co-ordination". This is conceived to be a continuing activity as a service to Canadian mining organizations, involving initially 0.5 person years.

The project objective is officially described as follows:

> "To develop and maintain a national information bank on current and developing mining technology in the Canadian mining industry and other related organizations, to be available for government policy purposes and for dissemination to members of the industry and associated organizations on a continuing basis. The ultimate objective is to promote co-operation and improve efficiency".

THE CANMET PROJECT

The first phase of this CANMET project involved establishing a comprehensive list of potential participants for such an "on-going" information exchange. Then relevant senior executives, representing significant mine operational companies and associated organizations, were contacted by mail, soliciting their active participation. Those endorsing the project, and committing their organizations to participation, were requested to designate working contacts.

The next phase, currently underway, consists of pre-arranged field visits to explain the project, to present simple questionnaire forms, to clarify information required and to arrange for such completed forms to be submitted. Essentially, participants are being asked to list significant current technologies in use, plus titles of technology development projects in progress, with brief summary descriptions of each. It is also planned to distribute simple equipment questionnaires pertaining to basic mobile mine operational equipment in both underground and open pit mines. As much as possible, information will be gathered through field survey interviews with the approved designated contacts, in order to keep their paperwork to a minimum.

Meanwhile computer storage and retrieval programs have been developed and tested to facilitate file storage, classification and retrieval, as required, with minimum time and effort. Present plans are to circulate full listings of the information obtained to all participants at regular intervals, as indicated. Such "printouts" initially will be classified by source companies. However many retrieval keywords have been incorporated into the programs to make outputs possible in a variety of classifications, for participants who may wish to make such special requests.

Senior executives, representing more than 50 of the major mine operational companies in Canada, were contacted with a letter explaining the proposed current awareness project and requesting their endorsement and participation. As noted, those who responded positively were requested to designate specific contacts within their organizations. Over 60% of the executives in question responded as being in favour of supporting the project, representing approximately 75% of the significant non-coal mining operations in Canada. Similar contacts are being made with universities and other mineral research organizations, including relevant government units.

INITIAL OBSERVATIONS

A limited number of survey field visits have been conducted to date, with encouraging results. Some observations based on these initial personal field contacts are noted:

1. As anticipated, it became evident that simply circulating questionnaires would not obtain adequate comprehensive results. Personal field contacts have been demonstrated to be necessary in order to explain the nature, purpose and projected value of the survey for all organizations in Canada involved in mining technology development.
2. After receiving basic explanations, field contacts have acknowledged the merit of this projected current awareness service for Canadian mining and have agreed to co-operate by providing the information in question.
3. Regarding the question of proprietary technology development projects, all contacts were requested to list titles only, when feasible, followed by the designation "proprietary".
4. A dominant reaction was that mining personnel are already recipients of too many questionnaires from various sources, involving excessive use of their valuable time. Accordingly, reactions to even simple questionnaires received by mail are usually negative.
5. It was universally required by field personnel that all survey contacts in each organization should be made with the one designated individual only.
6. Field contacts are being advised that it will be quite acceptable for them to submit the desired information in any format desired, where use of the questionnaire forms provided is not convenient.
7. As the survey proceeds, it is evident that continuing modifications to questionnaires, and other aspects of the survey, will be required in order to incorporate improvements based on the recommendations of participants.
8. Interviews to date have suggested that comments on specific reasons for embarking on each of the various projects could be a valuable addition to the summary description of each project.
9. It was also proposed that some indication of the magnitude and duration of each project would serve to rank its perceived importance.

10. Continuing modification of questionnaire retrieval keywords will undoubtedly be necessary to accommodate output requests from the various organizations, thereby improving the operational effectiveness of the service with time.
11. Consensus seems to be that mine equipment surveys should be simple, concentrating on major mobile operational equipment types.

FUTURE PROJECT PROCEDURES

The next phase of the project will involve completion of field surveys of relevant staff in the remaining participating organizations. This will be accomplished by members of "in-house" staff, in collaboration with contracting out. Obviously itineraries will be planned co-operatively to avoid any duplication and to ensure the most logical sequences. Information obtained from all sources will then be assembled, checked, significant omissions filled in, and final results collated and coded for input to computer storage. It is anticipated that this portion of the project will have been completed by the end of the calendar year 1984.

The first subsequent major output will be a printout of results, classified according to participating organizations, which will then be circulated to all participants. Essentially, each output item will include the name of the organization reporting, their address and telephone number, the technology development project title with a brief project description, as well as the name of the designated contact person in the organization. Additional printouts will be available on request, utilizing requested subject area keywords, thereby providing a different classification format.

It is envisaged that similar "follow-up" surveys will be conducted, possibly annually, and perhaps utilizing more correspondence and fewer field visits to acquire continuing "up-date" information. In each repeat national survey, when returns have been assembled, edited, collated, coded and placed in computer storage files, a complete printout of results will routinely be circulated to all participants.

As indicated, the scope of the survey will encompass recently completed technology development projects (4 to 5 years) considered significant, as well as currently active technology development projects. In future, where feasible, brief summaries of newly completed technology development projects

will be requested, for inclusion in the routine distribution of project outputs.

GENERAL OBSERVATIONS

Obviously the co-operation of a high percentage of relevant participants will be essential to ensure meaningful results from the proposed service.

From information received to date, statistical results indicate that approximately 30% of the responding companies have some form of central mining R & D units, representing some 55% of mining operations in Canada. Of the remaining companies responding, 57% conduct such activities on-site with regular mine staff. These results pertain essentially to operational mining companies.

It must be emphasized that the essential requirement of this current awareness project is that it be continued on an established basis. This will require assumption of responsibility for input of resources, as well as other forms of support, from some organization. CANMET is prepared to initiate the project and, with adequate cooperation to make it viable, will undertake to continue to sponsor the service, subject to the requisite internal approvals.